

## **Outer and Exception Join to Inner Join Normalization**

### **Abstract of the Disclosure**

5           An apparatus, program product and method utilize a query optimizer that identifies Join types in a query plan that can be replaced to facilitate optimization of the plan. If the query plan is considered to have a tree-graph representation, then the optimizer locates Join nodes to be replaced and substitutes an Inner Join node and additional nodes that do not inhibit optimization strategies and algorithms. As a result, all Outer Joins, whether left or  
10 right, and all Exception Joins, whether left or right, can be removed from the query plan before performing optimizations such as predicate movement, GROUP BY movement, ORDER BY movement, and Join enumeration.